INTERNATIONAL SEARCH REPORT

Internati Application No PCT/IB 03/04173

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H01F6/04 F25D29/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Documentation searched other than minimum documentation to the extent that such documents are included. In the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, WPI Data

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
Х	EP 0 544 943 A (OSAKA GAS CO LTD) 9 June 1993 (1993-06-09)	1-6,8-11	
Υ	the whole document	7,12,13	
Υ	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 13, 5 February 2001 (2001-02-05) -& JP 2000 274852 A (SUMITOMO HEAVY IND LTD), 6 October 2000 (2000-10-06) abstract; figures 1,6	7,12	
Υ	US 5 410 286 A (HERD KENNETH G ET AL) 25 April 1995 (1995-04-25) cited in the application abstract	13	

X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
Special categories of cited documents: A* document defining the general state of the art which is not considered to be of particular relevance E* earlier document but published on or after the international filling date L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O* document referring to an oral disclosure, use, exhibition or other means P* document published prior to the international filling date but later than the priority date claimed	 "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
12 January 2004	21/01/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer
NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	De Graaf, J.D.

INTERNATIONAL SEARCH REPORT

Internati Application No
PCT/IB 03/04173

0 (0 1)		PC1/1B 03/041/3		
Category °	ation) DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
Calcgory	Citation of document, with indication, where appropriate, of the relevant passages	Peevan to claim No.		
A	DE 14 26 986 A (MAX PLANCK GESELLSCHAFT) 29 May 1969 (1969-05-29) page 6, line 1 -page 7, line 19; figure 1	6		
٨	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) -& JP 11 325630 A (ISHIKAWAJIMA HARIMA HEAVY IND CO LTD), 26 November 1999 (1999-11-26) abstract; figures 1,2	7.12		
Α	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 10, 31 October 1996 (1996-10-31) -& JP 08 159584 A (NIPPON SANSO KK), 21 June 1996 (1996-06-21) abstract			
A	US 4 332 136 A (QUACK HANS) 1 June 1982 (1982-06-01)			
A	EP 0 937 995 A (GEN ELECTRIC) 25 August 1999 (1999-08-25)			
Α	US 4 872 314 A (ASANO KATUHIKO ET AL) 10 October 1989 (1989-10-10)			
Α	US 2001/023592 A1 (NAGATA ATSUSHI ET AL) 27 September 2001 (2001-09-27)			
A	GB 971 102 A (MAX PLANCK GESELLSCHAFT) 30 September 1964 (1964-09-30)			
A	DE 18 14 783 A (SIEMENS AG) 2 July 1970 (1970-07-02)			

INTERNATIONAL SEARCH REPORT

Internati Application No
PCT/1B 03/04173

Patent document ited in search report		Publication date		Patent family member(s)	Publication date
EP 0544943	A	09-06-1993	CA	2056691 A1	30-05-1993
			US	5293750 A	15-03-1994
			EP	0544943 A1	09-06-1993
			DE	69107213 D1	16-03-1995
			DE	69107213 T2	24-05-1995
JP 2000274852	A	06-10-2000	JP	3375906 B2	10-02-2003
US 5410286	Α	25-04-1995	NONE		
DE 1426986	A	29-05-1969	BE	668022 A	01-12-1965
			CH	443373 A	15-09-1967
			DE	1426986 A1	29-05-1969
			FR	1440509 A	27-05-1966
			GB	1061910 A	15-03-1967
			NL	6507927 A	07-02-1966
				3307370 A	07-02-1960
			US 	330/3/0 A	0/-03-190/
JP 11325630 2	Α		NONE		
JP 08159584 2	Α		NONE		
US 4332136	A	01-06-1982	CH	644442 A5	31-07-1984
			DE	3017236 A1	12-11-1981
			FR	2481428 A1	30-10-1983
			GB	2074709 A ,	
			JP	1393628 C	11-08-1987
			JP	57000460 A	05-01-1982
					09-12-1986
			JP	61057982 B	
			NL	8003044 A	01-12-198
EP 0937995	Α	25-08-1999	US	5936499 A	10-08-199
			EP	0937995 A2	25-08-199
			JP	11317307 A	16-11-199
US 4872314	Α	10-10-1989	JP	1149407 A	12-06-198
			JP	2564338 B2	18-12-199
US 2001023592	2 A1	27-09-2001	JP	2001227851 A	24-08-200
GB 971102	Α	30-09-1964	DE	1161570 B	23-01-196
			FR	1314895 A	11-01-196
			US	3166915 A	26-01-196
DE 1814783	A	02-07-1970	DE	1814783 A1	02-07-197